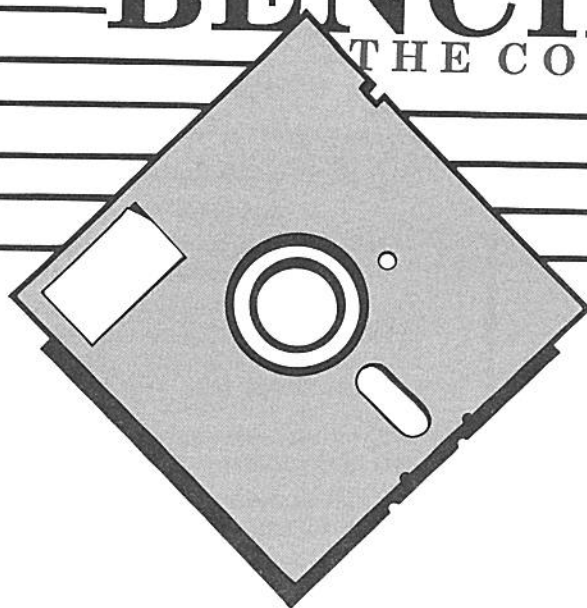


BENCHMARKS

THE COMPUTING CENTER



University of North Texas

VOLUME 9 NUMBER 4

AUGUST/SEPTEMBER 1988

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SERVICES AVAILABLE TO USERS OF THE UNT COMPUTING FACILITIES

The UNT Computing Center is located in the Information Sciences Building (ISB), Room 119. Phone Numbers:

Computing Center: (817) 565-2324
 Help Desk: (817) 565-4050
 Graphics Lab: (817) 565-3479
 ISB/O Area: (817) 565-3890
 BAI/O Area: (817) 565-2350

All personnel listed below can be contacted either by calling the Computing Center or by sending them electronic mail on MUSIC/SP (ID-codes follow each name. All IDs are on BITNET node UNTMUSIC).

BENCHMARKS - Claudia Lynch (AS04)

Information & ID-Codes; Disk Space Problems - Marilyn Jett

Statistical/Research Support - George Morrow (AS01), Panu Sit-tiwong (AC09), Phanit Laosirirat (AC44)

Academic ADABAS/COM-LETE - Janis Burkham (AC55)

CRSP & COMPUSTAT Problems - George Morrow (AS01), Phanit Laosirirat (AC44)

Student Programming Problems - CSC Dept., GAB Room 542A; BCIS Dept., BA Room 152

Problems with JCL, Passwords, or Operating Systems; or Communication/Terminal Problems - Help Desk

Data Entry; Test Scoring & Analysis - Betty Grise

Administrative Applications - Coy Hoggard

Printout Retrieval - ISB or BA I/O Operators



DIALING-UP UNT COMPUTERS OVER THE TELEPHONE

Phone numbers for the Local Area Network (LAN) are:

300/1200 BAUD: (817) 565-3300, (817) 565-3499

2400/1200/300 BAUD: D/FW METRO 429-6006, 429-9314

Area code 214 must dial 817 before the METRO number.

The numbers that accommodate multiple baud rates have an autobaud feature that requires you to hit the <RETURN> key repeatedly so that the receiving modem can determine the appropriate baud rate. When you have established a communications link, the # prompt will appear on your screen and you can enter one of following CALL commands to connect with the computer of your choice.

CALL 8040 connects with the NAS/8083 (supports line editing or PCWS). Operating environments available are: MUSIC/SP, VM/CMS.

CALL 3270 connects with the NAS/8083 through a 3270 protocol converter (supports full-screen editing). Operating environments available are: MUSIC/SP, VM/CMS, ADABAS/COM-LETE, PHOENIX

CALL DEC connects with the VAXcluster (VMS, Eunice)

CALL 780 connects with the Research VAX (Unix)

CALL 3000 connects with the Libraries' HP-3000 (Bibliographic data base).

CALL 6800 connects with the NBI (Unix)

Communications Settings

LAN addresses	Data Bits	Parity	Stop Bits
DEC, 3000	8	N	1
8040, 3270, 780, 6800	7	E	1

HOURS FOR UNIVERSITY OF NORTH TEXAS COMPUTER ACCESS AREAS : FALL 1988*

Location	Times	Days
Computing Center RJE	Noon-Midnight 7 a.m.-Midnight 7 a.m., Tuesday-Midnight, Saturday (Open 24 hours/day)	Sunday Monday Tuesday-Saturday
ISB 110 Terminal Area	2-10 p.m. 7:30 a.m.-Midnight 7:30 a.m.-6 p.m. 9 a.m.-6 p.m.	Sunday Monday-Thursday Friday Saturday
College of Business	Noon-11:45 p.m. 8:15 a.m.-11:45 p.m. 8:15 a.m.-7:45 p.m.	Saturday, Sunday Monday-Thursday Friday
GAB 550C	2 p.m.-Midnight 8 a.m.-Midnight 8 a.m.-5 p.m. 2 p.m.-8 p.m.	Sunday Monday-Thursday Friday Saturday
Graphics Lab	Noon-10 p.m. 8 a.m.-10 p.m. 8 a.m.-6 p.m. Noon-5 p.m.	Sunday Monday-Thursday Friday Saturday

*Hours may vary. Check MUSIC/VAX News and/or posted schedules for exceptions.

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GENERAL INFORMATION

**WELCOME
BACK!**



By Dave Molta, Manager of
Academic Computing Services
(MOLTA@UNTVAX)

On behalf of the entire staff of the University of North Texas Computing Center, I'd like to welcome everyone back for the new 1988-1989 academic

year. As the University moves closer to its centennial anniversary, we are doing all we can to create a computing environment consistent with our status as a prominent national education and research institution. This article will provide an overview of computing resources of-

fered through Academic Computing Services, summarize some of the accomplishments we have made in the academic computing area during the past year and set the agenda for some improvements we have planned for the upcoming year.



**Don't Forget to Renew
your Individual ID-code
for Fiscal Year 1988-89**

Hardware and Operating Systems

The primary computing resources for academic computing at the University of North Texas consist of an IBM-compatible National Advance Systems 8083 dual processor mainframe computer and a Digital Equipment Corporation VAXcluster consisting of two VAX 11/785 minicomputers running under the VMS operating system. The NAS machine supports 3 operating systems for instruction and research: VM/CMS, OS/MVS, and MUSIC/SP; a computer based training system called PHOENIX; and COM-LETE, a teleprocessing monitor. OS/MVS provides batch processing while MUSIC/SP is the primary interactive operating system. CMS is available on a limited basis, most notably for graphics applications using SAS/GRAPH. COM-LETE is used by the College of Busi-

Academic Building, Information Sciences Building, Music Building, and Wooten Hall. In addition, a computer graphics laboratory is located in the basement of the Information Sciences Building.

Software

Academic Computing Services directly supports several major statistical packages for use on the mainframe systems and maintains site licenses for SPSS-PC+ and SAS-PC statistical analysis packages for use on IBM-compatible microcomputers. Software from the PC-SIG public domain/shareware library, containing several hundred programs and utilities for IBM-compatible microcomputers, is also available to the user community at no charge. Electronic mail facilities are supported on all mainframe systems for communications on campus as well as

with several hundred other universities through BIT-NET, an international communications network and THENET, a network of Texas governmental, educational, and research institutions. The Computing Center also serves as a repository for a substantial body of machine readable

As the University moves closer to its centennial anniversary, we are doing all we can to create a computing environment consistent with our status as a prominent national education and research institution.

ness for teaching ADABAS, a database management system.

Access to these operating systems and to other computers is gained through a cable television-based local area network (LAN) on campus or, from off campus, through telephone lines connected to the LAN. Clusters of terminals are available to faculty and students in the Business Administration Building, General

data including the Inter-University Consortium for Political and Social Research (ICPSR) data archives, Standard and Poor's COMPUSTAT, and the Center for Research in Security Prices' (CRSP) datasets.

Consulting Services

Consulting services are provided by Academic Computing Services to facilitate the use of campus comput-

ing facilities by students and faculty. Experienced consultants are available to assist users in the use of microcomputer and mainframe software as well as in the design of instructional and research projects. Consultants are also available to provide advice on the acquisition of computer hardware and software.

Because of limited staff resources, it is not possible for the staff of Academic Computing Services to actually write programs or perform computer-based statistical analyses. Rather, we regularly provide a series of short courses intended to allow you to gain the expertise necessary to use the computer systems on your own (see schedule of courses later in this issue of *Benchmarks*). If you do experience problems, consultants are available to meet with you on an individual basis to help you overcome any difficulties.

Review of Accomplishments: 1987-1988

The 1987-1988 academic year was a busy one for our staff with several projects undertaken to improve the quality of academic computing at North Texas. Among the projects completed or near completion are the following:

- **THENET:** In September of 1987, the University of North Texas joined THENET, a DECnet-based interactive network made up of over 30 Texas governmental, educational, and research institutions. THENET is currently the largest regional research network in the country with nearly 400 computer connections spread throughout the state, including supercomputer centers at UT-Austin and the Houston Area Research Center. Users of THENET have interactive access to many of these computers as well as file transfer and electronic mail capabilities.

Due to our extensive experience in computer networking, the staff of Academic Computing Services is actively involved in establishing the charter for THENET and also

in developing usage policies. I will be serving as the Co-chairman for the network resources committee, which is charged with establishing logistical procedures for using computer resources on the network.

- **ARPANET:** In July of 1988, the University of North Texas acquired the software necessary to establish itself as a node on the ARPANET, a prominent international network of computer users engaged in government-sponsored research. ARPANET services include remote login, electronic mail, and file transfer

By establishing ourselves as a node on the ARPANET, we will have access to numerous national computing resources including file servers and regional supercomputer centers. We are in the process of establishing ourselves as an officially recognized node (to allow access to our systems from other research and educational institutions) and hope to complete this process by the end of September.

- **College of Business Laser Printer:** In the fall of 1987, a new Hewlett Packard Model 2680A laser printer was installed in the College of Business output area. The installation of this printer has significantly reduced the turnaround time for laser printed output on campus.
- **High-speed dial-up lines:** In the spring of 1988, additional dial-up modems were installed both in Denton and in Ft. Worth to serve local and metro-area users. Nine US Robotics HST modems have been installed in Denton (565-3461), and 11 HSTs have been installed on metro-lines (429-6006; 429-9314). These modems are all capable of supporting 9600, 2400, 1200, and 300 BPS communications, though for Denton users, we prefer that you call the 300/1200 BPS lines (565-3300; 565-3499) for those speeds. We have been experiencing some problems with the compatibility of the US

Robotics modems with some brands of 1200 and 2400 baud modems, but we are working closely with US Robotics and hope to have the problems solved early in the fall semester.

- **Contract with Apple Computer Corporation:** In July of 1988, the Computing Center entered into an agreement with Apple Computer Corporation to become affiliated with their Higher Education Purchase Program (HEPP II). Under the provisions of this program, students, faculty, and staff will be able to purchase Macintosh computers through the University Store at discounts of approximately 35 percent off of retail. Apple also provided the University with a grant of seven Macintosh computers, a laser printer, and various peripherals that will be installed in labs on campus this fall.
- **Increased use of departmental networks:** The Computing Center has been working closely with several departments on campus in developing high-speed microcomputer networks using Novell's Advanced Netware Operating System. We were successful in acquiring 15 copies of Novell's latest operating system software under their educational grant program. Most of the copies were used to upgrade existing networks to the latest version of the operating system. Eleven of these networks are currently interconnected over the campus-wide broadband cable system.
- **Ethernet Expansion:** The ethernet network that previously connected terminal servers in the GAB fifth floor computer lab has been expanded to provide high-speed access to the VAXcluster and Computer Science UNIX systems. Trunk cable has been installed on the 3rd, 4th, and 5th floors of the GAB, and a fiber-optic connection has been installed between the GAB and ISB. This network will permit remote login and high-speed file transfer

between systems supporting the TCP/IP networking protocols.

Projects Planned for 1988-1989

While we are proud of our computer facilities and services here at UNT, we are constantly striving to make improvements. In line with these efforts, several projects are currently in the works to advance the quality of computing on campus. Of special interest to Academic Computing is the continued improvement of networking capabilities on campus.

- **New Protocol Converters:** The existing Renex protocol converters that permit ASCII terminals to emulate 3270-type terminals will be supplemented, and eventually replaced, by newer, channel attached devices. These new protocol converters should offer significantly improved terminal response for users of the NAS mainframe.
- **Ethernet Connection to NAS 8083:** The Computing Center is evaluating products that will all users to access the NAS 8083 via a channel-attached ethernet interface. This device will allow remote login and file transfer to the VM operating system at very high speeds. This system will also dramatically improve communications capabilities between the NAS and VAX/VMS and UNIX systems on campus. Since the interface will utilize TCP/IP protocols, it will also be compatible with national networks such as ARPANET and NSFNET.
- **ISB 110 Micro-Mainframe Lab:** Academic Computing is planning to convert the terminals in the ISB 110 lab into intelligent workstations capable of high-speed connections and file transfers to host systems as well as local processing. Initial plans call for the installation of 6 Macintosh SE's and 6 IBM AT-Compatible systems connected to a central file/print server. At a later date, we would like to double that number.

- **Installation of Gateways From Novell LANs:** This fall, the Computing Center will install asynchronous and TCP/IP gateways between lab and departmental Novell LANs on campus. This will allow Novell users who are connected to the broadband cable system to access the Sytek network and the campus TCP/IP ethernet subnet as well as national research networks.

If you are interested in acquiring additional information about central computing services at UNT, drop by the Computing Center in ISB 119. If you have any problems with the services we provide, please let us know and we will do everything we can to address your concerns. Once again, best wishes for a productive academic year. ♦

Staffing Changes in Academic Computing

Marilyn Jett has joined the Computing Center as an Administrative Assistant. She comes to us from the Physical Education Department and is occupying the position once held by Carolyn Goodman. Marilyn is the person faculty members should contact to schedule the use of ISB 110 and/or request individual short-courses for specific classes.

Another new face in the "front office" is Martha Flournoy. Martha, who is employed as a full-time recep-

tionist, replaced Sharon Gale, who is now working in the College of Business. Martha is assisted by two part-time receptionists, Shelly McGowan (nee Lathern - she got married in August!), and Terri Bell, who is new to the Computing Center this semester.

We were very sorry to see two valued staff members, Scott Barber and Jim Aman, leave this summer. Scott, who had worked in Academic Computing

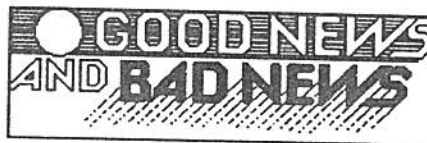
Its That Time Again

The beginning of a new fiscal year means lots of things to lots of people. In the realm of User-IDs, it means that:

- 1.) Individual User-IDs need to be renewed. This is especially important if you have a research grant associated with that account. Remember, **User-IDs that are not renewed are purged from the system!**
- 2.) Now is the time for faculty members to request classroom accounts.

The forms necessary for renewing and/or requesting new User-IDs and classroom accounts are available in the Computing Center Reception Area, ISB 119. Faculty members should note that it is possible to reserve a public access terminal area (ISB 110) or the Computing Center's Graphic Lab for instructional purposes. Additionally, you can request the services of a Computing Center consultant in instructing your classes on topics such as the use of MUSIC, VAX/VMS, SAS, etc. ♦

Services since 1984, left to pursue a doctoral degree at the University of North Carolina. Jim, who recently completed his Ph.D. here at NT, took a position as Chairman of the Computer Science Department at Wilmington College in Wilmington, Ohio. We wish both Scott and Jim the best of luck.



On a brighter note, Panu Sittiwong, who was a part-time consultant in Academic Computing Services from 1984 until January 1988, has taken Scott Barber's old position. A new part-time consultant, Kevin Mullet, is proving to be invaluable, and we have also been very lucky to hire Janis Burkham as the new Academic Database Consultant. A 1980 MBA graduate from NT, Janis comes to us from Tyler Pipe, Inc. in Tyler, Tx. ♦

Computing Center Short Courses

The Computing Center is offering the following short courses during the 1988 Fall Semester. Please pre-register to attend (a registration form is provided at the end of this issue). **A maximum of 15 people will be admitted to each of the Introduction to MUSIC/SP classes, parts I & II. A maximum of 20 people will be admitted to each of the remaining classes.**

1. **Introduction to MUSIC/SP, Part I** – MUSIC/SP is the primary interactive operating system employed by most academic users to access the NAS/8083 IBM-compatible mainframe computer at UNT. MUSIC users have access to a variety of programming languages, a sophisticated word processing system, and several statistical analysis packages. MUSIC also gives you the capability to submit batch jobs to the MVS operating system. Topics covered include gaining access over the Local Area Network, logging on and off, changing your password, and creating, editing, and storing files using the full-screen editor.

Six separate two-hour sessions to be held in Room 110 of the Science Library (ISB):

Monday, September 26: 3--5 p.m.	Instructor: George Morrow
Tuesday, September 27: 9--11 a.m.	Instructor: Panu Sittiwong
Saturday, September 31: 9--11 a.m.	Instructor: Kevin Mullet
Monday, October 24: 6--8 p.m.	Instructor: Kevin Mullet
Tuesday, October 25: 10 a.m.--Noon	Instructor: Panu Sittiwong
Wednesday, October 26: 9--11 a.m.	Instructor: Janis Burkham

2. **Introduction to MUSIC/SP, Part II** – This course provides an in-depth look at various useful programs and utilities that are available on MUSIC/SP. Topics covered include accessing on-line help facilities, using electronic mail, routing output to high-speed printers, and writing files to secondary storage such as disk and tape. **A working knowledge of MUSIC is required.**

Two separate two-hour sessions to be held in Room 110 of the Science Library (ISB):

Monday, October 3: 2--4 p.m.	Instructor: Philip Baczewski
Monday, October 31: 3--5 p.m.	Instructor: Philip Baczewski

3. **Introduction to IBM Job Control Language (JCL)** – This course provides an overview of IBM JCL for users who wish to further their knowledge in this area. It is useful to individuals who plan to run batch jobs (e.g. SAS, SPSS^X, BMDP) on the IBM-compatible mainframe computer.

A two-hour session to be held in ISB 123:

Tuesday, September 27: 3--5 p.m.	Instructor: George Morrow
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4. **Introduction to SAS** – SAS is one of the most widely implemented data analysis systems within business and education. SAS is particularly well suited for data set manipulation and includes an extensive procedure library providing a wide range of analytical tools. This course is recommended for individuals who plan to incorporate statistical analyses into their research. Topics covered include the reading of data into SAS, simple data transformations, recoding variables, labeling output, and performing simple univariate and bivariate analyses. **Prior knowledge of MUSIC/SP is required.**

Two separate two-hour sessions to be held in Room 110 of the Science Library (ISB):

Wednesday, September 28: 3--5 p.m.	Instructor: Panu Sittiwong
Thursday, October 27: 1--3 p.m.	Instructor: Phanit Laosirirat

5. **Introduction to SPSS^X** – SPSS^X is the latest version of this popular data analysis system originally developed for social scientific research. While SAS is slightly more powerful for the analysis of complex datasets, many users find SPSS^X to be easier to learn. SPSS^X also includes more flexible facilities for collapsing and labeling variables. This course is recommended for individuals who plan to incorporate statistical analyses into their research. Topics covered include

the reading of data into SPSS^X, simple data transformations, recoding variables, labeling output, and performing simple univariate and bivariate analyses. Prior knowledge of MUSIC/SP is required.

Two separate two-hour sessions to be held in Room 110 of the Science Library (ISB):

Thursday, September 29: 1--3 p.m.
Friday, October 28: 9--11 a.m.

Instructor: Phanit Laosirirat
Instructor: Panu Sittiwong

- 6. File Handling with SAS, SPSS^X, and BMDP** – Anyone who uses these common statistical packages frequently should be aware of procedures available to simplify reading and processing datasets. Variable formats, labels, and computed variable information can be stored in a dataset and recalled in a future job with one command. This course shows you how to use simple JCL along with the statistical software to make your jobs run much more quickly and smoothly. Familiarity with at least one of the packages mentioned is necessary.

Two separate two-hour sessions to be held in ISB 123:

Tuesday, October 4: 2--4 p.m.
Tuesday, November 1: 9--11 a.m.

Instructor: Claudia Lynch
Instructor: Claudia Lynch

- 7. Introduction to VAX/VMS, Part I** – VMS is the interactive operating system used on the Digital Equipment Corporation (DEC) VAXcluster. Nearly all popular programming languages are supported under VMS. The topics covered in this course include gaining access to the VAXcluster through the Local Area Network, logging in and out, changing your password, creating files and directories, creating login command files, using the EDT editor, and defining logicals and symbols.

Two two-hour sessions to be held in Room 110 of the Science Library (ISB).

Thursday, September 29: 9--11 a.m.
Wednesday, October 26: 3--5 p.m.

Instructor: Kevin Mullet
Instructor: Kevin Mullet

- 8. Introduction to VAX/VMS, Part II** – This course provides a more detailed examination of VMS commands and utilities. The topics covered in this course include use of the electronic mail and messaging systems, creating command files, advanced editing using TPU, and sending mail through BITNET. Prior experience using VAX/VMS is required.

Two separate two-hour sessions to be held in Room 110 of the Science Library (SB).

Tuesday, October 4: 9--11 a.m.
Tuesday, November 1: 3--5 p.m.

Instructor: Billy Barron
Instructor: Billy Barron

- 9. Introduction to BITNET** – BITNET is a network linking more than 600 computers at over 300 institutions and research centers. This course covers the basic concepts of BITNET, file transfers across BITNET sites, and other services that are available on this computer network. Faculty and graduate students needing to exchange information with other universities and research institutions in the U.S., Canada, Europe, or Japan will benefit greatly from attending this course. Prior knowledge of at least one of the following interactive operating systems is required: CMS, MUSIC, VAX.

Two two-hour sessions to be held in the Academic Computing Conference Room (ISB 123):

Thursday, October 6: 3--5 p.m.
Wednesday, November 2: 10 a.m.--Noon

Instructor: Philip Baczewski
Instructor: Philip Baczewski

- 10. Introduction to PROCOMM and PCWS** – Both of these short courses deal with Personal Computer to mainframe communications. **Introduction to PCWS** presents an overview of using PC Work Station, a communications package which is specifically written to allow terminal access and file transfer capabilities between an IBM PC or compatible and the MUSIC/SP operating system. Topics covered include setting up PCWS communications parameters, connecting to MUSIC over the UNT local area network, using PCWS's full-screen capabilities, and using PCWS for file transfer between MUSIC and the PC. **Introduction to Procomm** presents an overview of the Procomm communications package for Personal Computers or compatibles. Procomm provides several different terminal emulation modes, and supports several file transfer protocols including KERMIT and XMODEM. Topics covered include setting communications and

file transfer parameters, setting up and using Procomm's dialing directory, and connecting to UNT mainframes through the local area network.

These courses will be held in Terrill Hall, room 247, at the following times:

Introduction to Procomm:	Tuesday, October 4, 2--3 p.m. Instructor: Kevin Mullet
Introduction to PCWS:	Tuesday, October 4, 3--4 p.m. Instructor: Kevin Mullet
Introduction to Procomm:	Thursday, November 3, 2--3 p.m. Instructor: Kevin Mullet
Introduction to PCWS:	Thursday, November 3, 3--4 p.m. Instructor: Kevin Mullet

University of North Texas Computing Center Policy and Procedure Highlights

This is a modified version of an article that appears yearly in Benchmarks

Procedure for Obtaining User-ID Codes for Classroom Instruction

When applying for ID-codes for classroom use, we ask that faculty fill out two forms for each class in which they need computer ID-codes. The first form, which is white, is titled "Classroom ID Usage Projection" and fulfills two purposes. First, information on course enrollment, number of ID-codes, systems, and software usage aids the Computing Center in planning for future computer and software purchases. Second, the form collects information on other special facilities provided by Academic Computing, such as terminal rooms, the Graphics Lab, and short courses, which the class may require.

The second form, which is blue, is called the "New User-ID Request Form," and is used to assign ID-codes for mainframe computers that are owned and administered by the Computing Center. The information on this form is entered into a computer database by our clerical staff. This database forms the input for a program which automatically assigns

ID-codes and passwords on all of our computer systems. It is critical, therefore, that this form be filled out accurately and completely.

In addition to the faculty member's name and Social Security Number, there are several other important items on the blue Request Form. Instructors should indicate that they are requesting Classroom user IDs, and specify the course information with department, course and section. Failure to provide this information will slow down the processing procedures.

The form also contains a space to indicate the number of students in the class. If this area is left blank, our program will assign user ID-codes to all students registered for that class. Each ID-code will be matched with the name of a student in the class as contained in the University student records database. At the beginning of each new semester, therefore, it would be wise to wait until most add/drops have been completed before requesting computer user ID-codes for classes.

The ID-codes will be composed of two letters and two digits. The two digits will start with 00, then 01, 02, etc. until the number is equal to the number of students in the class. The

ID-code numbered 00 is in the instructor's name (for the instructor's use only), and each of the other codes is assigned to a student by name. Slips containing the ID-codes, passwords and names should be picked up by the instructor at the Computing Center Reception Area, located in the Information Science Building, Room 119.

If additional students are added to the class, the instructor need only call Martha or Marilyn in the Computing Center, Ext. 2324, letting them know the last number in the original range assigned. The required number will then be added, and may be picked up shortly thereafter in the Computing Center. Likewise, instructors may cancel the ID-codes of students who drop the class by providing the student names and ID-codes in a written memo.

Under some circumstances, instructors may prefer that ID-codes not be assigned to each student by name. This may occur, for example, when students will be working only as teams, or when codes are needed before the class rolls are determined. Only in cases like these should instructors indicate the number of ID-codes required for the class. All these codes will be assigned in the instructor's name, and will range

from 00 to the number requested. Once again, the 00 ID-code should only be used by the instructor.

Instructors should indicate on the Request Form the computers and operating systems required for the class. The MUSIC/SP system is required to access almost all software on the IBM-compatible mainframe NAS/8083 computer, including those programs that run only under the OS batch operating system.

Normally, then, classes that use the IBM-compatible system will require both MUSIC and OS batch ID-codes. Classes which use the VAX computers will also be assigned OS batch ID-codes, so that students may use the central printers in the ISB. *No class ID-codes will be assigned on the administrative portion of the NAS/8083 computer under any cir-*

umstances. Classes which require access to the CMS operating system, or the COM-LETE teleprocessing monitor on the academic NAS/8083, must first have the approval of the Academic Computing Manager.

Faculty should also fill in the departmental account number and department

name. This information allows us to collect data on computer usage by department and college which is useful in planning for future computer and software purchases.

The Request Form is not complete until it has been signed by both the faculty member and the department head. These signatures certify that the computing services requested are in support of University activities, and will not be used for commercial purposes or personal financial gain.

Obtaining an Individual ID-Code

Individual faculty and students may apply for an ID-code, which will be theirs to use for the entire fiscal year (September 1 - August 31). In order to obtain this type of ID-code, a "Computing Center New USER-ID

Request Form" (blue) must be completed and signed by the Account Authority for the particular department the individual is from. Students applying for an individual ID-code must also have the signature of a faculty sponsor.

The Responsibilities of Computer Use

Like most of life's other privileges, the privilege of being a computer user at NT brings with it some responsibilities. These responsibilities involve two common things, courtesy and sense. Every computer user must comply with the following statement, which is signed by individual ID-code holders and Instructors who apply for classroom ID-codes. It is the Instructor's responsibility to inform their stu-

Like most of life's other privileges, the privilege of being a computer user at NT brings with it some responsibilities. These responsibilities involve two common things, courtesy and sense.

dents about this when they pass out the ID-codes (this form has not yet been modified to reflect the University name change).

I hereby certify that to the best of my knowledge and intent, the computing services obtained through the use of this request form will be for the purpose indicated above and:

1. Will be limited to justifiable computing support of NTSU/TCOM activities;
2. Will not be used for commercial purposes or financial gain.

I understand the unauthorized use of files or userids other than my own may be a violation of Texas State criminal law (see BENCHMARKS, Feb. 1986, pp. 2,3 for a more detailed description). Any unauthorized use of another user's program or data files will result in the loss of computing privileges and possible disciplinary or criminal action.

This means, among other things, that people who have classroom ID-

codes, cannot use them for non-classroom work. There have been instances in the past of student violations with regard to the use of classroom ID-codes. These violations have included such things as using the computer to perform tasks in connection with an off-campus job, and using the laser printer to produce resumes. **BE FOREWARNED!** For a student, loss of computing privileges, *which could happen* when you do such things, could make it impossible to complete classroom assignments, or even an entire degree program. Furthermore, abuse of computing resources could result in the restriction of computing services for the entire academic community.

See related topic that follows . . .

Computer Crime and You: Know the Law

The Texas State Legislature amended Title 7 of the Penal Code, effective September 1, 1985 to include computer crimes. After providing definitions for such terms as 'communications common carrier,' 'computer,' 'computer program,'

'computer security system,' 'data,' and 'electric utility,' Senate Bill 72 goes on to state:

"Section 33.02. BREACH OF COMPUTER SECURITY.

(a) A person commits an offense if the person:

"(1) uses a computer without the effective consent of the owner of the computer or a person authorized to license access to the computer and the actor knows that there exists a computer security system intended to prevent him from making that use of the computer; or

"(2) gains access to data stored or maintained by a computer without the effective consent of the owner or licensee of the data and the actor knows that there exists a computer security system intended to prevent him from gaining access to that data.

"(b) A person commits an offense if the person intentionally or knowingly gives a password, identifying code, personal identification number, or other confidential information about a computer

security system to another person without the effective consent of the person employing the computer security system to restrict the use of a computer or to restrict access to data stored or maintained by a computer.

"(c) An offense under this section is a Class A misdemeanor.

"Section 33.03. HARMFUL ACCESS.

(a) A person commits an offense if the person intentionally or knowingly: "(1) causes a computer to malfunction or interrupts the operation of a computer without the effective consent of the owner of the computer or a person authorized to license access to the computer; or "(2) alters, damages, or destroys data or a computer program stored, maintained, or produced by a computer, without the effective consent of the owner or licensee of the data or computer program.

"(b) An offense under this section is: "(1) a Class B misdemeanor if the conduct did not cause any loss or damage or if the value of the loss or damage caused by the conduct is less than \$200;

"(2) a Class A misdemeanor if the value of the loss or damage caused by the conduct is \$200 or more but less than \$2,500; or "(3) a felony of the third degree if the value of the loss or damage caused by the conduct is \$2,500 or more.

"Section 33.04. DEFENSES. It is an affirmative defense to prosecution under Sections 33.02 and 33.03 of this code that the actor was an officer, employee, or agent of a communications common carrier or electric utility and committed the proscribed act or acts in the course of employment while engaged in an activity that is a necessary incident to the rendition of service or to the protection of the rights or property of the communications common carrier or electric utility.

If you are interested in seeing the text of the entire document, contact Claudia Lynch, *Benchmarks* Editor at 565-2324, or send electronic mail on either the to the ID-Code AS04.

After-hours Output Retrieval For Students in Wheelchairs

The following procedure is to assist students in wheelchairs to obtain output printed on the Laser or Remote 3 printers after regular office hours.

During regular office hours (8 am - 5 pm, Monday through Friday), students in wheelchairs may enter through the Computing Center front office (Rm 119 ISB) and go through the hallway around to the Output boxes to retrieve their output. This office is closed after 5 pm on weekdays

and at all times on weekends. At these times, please follow these steps.

1. ON MUSIC using REMOTE 3: Jobs routed to this Remote have been printed when OSJR responds "JOB NOT FOUND". Proceed to '3' below.

2. ON MUSIC using LASER: Wait about 45 minutes after OSJR responds "JOB NOT FOUND", then call 3890 to see if your job has printed. **ON VAX using LASER:** Wait about 50 minutes after submitting your job with the LASER command, then call the Output Operator at 3890 to see if your job has printed.

3. When your job has printed, tell the Output Operator at 3890) A. Your name, B. How many jobs you'll be picking up, C. Filing type specified on the output, D. That you're on your way over to pick up the output.

4. Come over to the ISB main entrance. Buzz the key-operated buzzer by the far right door, and come into the hallway by the door to ISB room 119.

The Output Operator on duty will have retrieved your printouts after your phone call. (S)he will listen for the buzzer as a signal to bring the printouts to you at the door of rm. 119, as soon as he is able to do so.

To obtain a key to the buzzer: See Handicapped Student Services, in the Dean of Students Office.

Job Processing Policy Reminder

Every semester brings with it new faculty and students and returning faculty and students who have had plenty of things to think about between semesters besides what the Computing Center job processing policies are. It is for this reason that it is probably a good idea to review some of the "biggies," as far as rules go ...

1) One of the most important rules is the **4 COPY RULE**. That is, the maximum number of copies of a job to be printed on any Computing Center printer is 4. Exceptions to this policy must be approved by the Associate Vice President for Computing or his authorized representative. **Violations will be reported to the appropriate Vice President.** This rule should be taken very seriously.

2) No more than 5 jobs can be submitted to the execution queue by the same person at one time. Additional jobs will be canceled unless special permission has been obtained and Computer Operations has been notified. Permission may be gained by contacting Academic Computing Services (ISB 119, 8-5 M-F).

3) Jobs can have different classes, and if you misclassify your job it may be canceled. The table below shows the job class schedule.

CLASS:	TIME/LINES RESTRICTIONS:	# OF TAPES:
A	$3 \times \text{TIME} + (\text{LINES}/1000) \leq 45$	NONE
B	$3 \times \text{TIME} + (\text{LINES}/1000) \leq 45$	ONE
C	$3 \times \text{TIME} + (\text{LINES}/1000) \leq 45$	THREE
D	$3 \times \text{TIME} + (\text{LINES}/1000) \leq 45$	TWO
J,K,N	$3 \times \text{TIME} + (\text{LINES}/1000) > 45$	< THREE
M	$3 \times \text{TIME} + (\text{LINES}/1000) > 45$	THREE

BATCH CLASSES (TIME + LINES ≤ 4) (NO TAPES):

CLASS:	COMPILER:
1	PLC
2	WATFIV
3	SPITBOL
4	WATBOL
5	WATFIV-S

Class L is reserved for JOBS requiring over two megabytes (2048K). Permission to run such jobs must be obtained from Academic Computing Services (ISB 119, 8-5 M-F).

NOTE: Class J, K, L, M, or N jobs must have a special handling notice submitted to the operators via 'SURF' stating time, lines, and number of devices (tapes) required before the jobs will be processed. Enter **HELP SURF** while in *GO mode on MUSIC/SP for more information.

More information about Computing Center JOB processing policies can be obtained by entering **HELP OPER** from *GO mode on MUSIC/SP.

OS Dataset Naming Convention

The naming convention for OS disk and tape datasets on the ACADemic NAS/8083 CPU is:
USER.myid.filename

where: **USER** - must appear
myid - is your User-ID and must appear
filename - must appear
 - is one or more optional fields (each of which may not exceed 8 characters) separated by periods.

If you are allocating a VSAM dataset, you should use the high-level qualifier of **USRV**. instead of **USER**. If a job attempts to create or access a dataset that does not have a proper high-level qualifier, the job will fail with a JCL error, and the following message will appear in the system messages area of your output:

IEF720I jobname ddname - USER NOT AUTHORIZED TO DEFINE THIS DATA SET

Tape datasets should also follow the above naming convention. Catalogued datasets will be deleted if they do not follow the proper convention.

File Management Policy For OS/MVS Disks

The following procedures are in effect for managing files on the academic disk packs.

ACAD00, ACAD01, and ACAD02

The volume ACAD01 is to be used solely for instruction by faculty and students in the College of Business. Faculty and graduate students who have data and programs used for research should store their files on ACAD00. ACAD02 is available for all other general use.

All files on the volumes ACAD00, ACAD01 and ACAD02 which have not been accessed for the previous 365 days are deleted at the end of every long semester and before each Fall semester. Users who have data and programs on these volumes that are infrequently accessed should copy these files to tape.

Moving Data Sets

You may use the utility program **MOVEDATA** to move a sequential or partitioned dataset from OS disk to tape, or from one OS disk to another. To access this program, type **MENU** in the *GO mode on MUSIC/SP. Users with VSAM or ISAM data sets are responsible for writing the appropriate programs to move their files.

Processing Tapes on the NAS/8083

Tape processing on the NAS/8083 is accomplished through a tape management system (TMS), which provides users with protection against inadvertent loss of tape data and manages the many tapes in the Computing Center's tape library. In order for the TMS to be effective, it must control all the tapes that are being processed. To accomplish this, people who own tapes that they want to access must have them copied onto a tape controlled by the TMS. The only exception to this rule is if you want to access a foreign tape (a tape that doesn't belong to the TMS) "just one time." This might be the case if you want to copy files from a tape

onto disk. In all other cases, you cannot access data contained on a tape unless it resides on a TMS volume. The **OPER** help file on MUSIC has a good overview of the Tape Management System here at NT. To read it, enter **HELP OPER** from MUSIC *GO mode and follow the instructions.

Below are some procedures to follow to process tapes on the NAS/8083:

CONDITION	ACTION
Copy Tape onto TMS	Bring tape and any documentation about it to the Computing Center Reception Area (ISB 119). Fill out the BLUE form for copying Foreign tapes onto the TMS. Deliver the form to the Computing Center Reception Area (ISB 119).
Copy TMS volume to personal tape	If necessary, find out what the requirements are for tapes at the location you are planning to process your tape. Bring your personal tape to the Computing Center Reception Area (ISB 119). Blank tapes may be purchased here, also. Fill out the GREEN form for copying TMS volumes onto Foreign Tapes.
Copy files from personal tape to disk	Bring your tape to the Computing Center high security area (GAB 5th floor - take the northeast staircase). Run your job (remembering to

CONDITION ACTION

send a SURF message telling the operator to process your tape - enter SURF from *GO mode on MUSIC/SP and follow the instructions). When you are through, and are sure your job worked, return to the high security area to pick up your tape.

NOTE: If you have a non-labeled tape and don't want to write dataset names, the Tape Librarian will assume it is O.K. with you to name your files USER.yourid.FILE001 to USER.yourid.FILE00N.

The tape management system keeps track of what is going on with its tapes through the tape management catalog (TMC). The TMC is updated each time a tape is mounted and dismounted, and contains the following information:

-Volume Serial - Record Format
-Blocksize - Expiration Date
-Tape Density - Dataset Name
-Logical Record - Jobname/
Length Stepname
Creating File

The TMS allows users to specify retention periods and expiration dates for their tapes (expiration dates are calculated, if a retention period is specified). The default retention period is 180 days. Each file on a tape has an expiration date associated with it. If the tape is a copy of an outside (foreign) tape, all the datasets (files) on the tape will have the same expiration date. If the tape consists of files that have been added over time, each file will have a different expiration date. A TAPE WILL NOT EXPIRE, UNTIL ALL THE FILES ON IT HAVE EXPIRED!

While this may be a comforting thought, do not be lulled into blissful

abandon. Unless you are continually adding files to your tape, it will expire eventually. An expired tape is AUTOMATICALLY returned to scratch tape status, ready to be written over at a moments notice. To keep on top of things, occasionally (once every couple of months or so), run the following job:

```
//JOB CARD <--A Valid job card
//          EXEC      TMSINFO
//SYSIN DD *
VOL = tapevolume <--Your TMS tape #
/*
```

This will inform you of the status of the various files on your tape(s). It should be noted that the expiration dates (EXPDT=) reported by this utility are specified as Julian Dates. The table provided below should aid you in deciphering the expiration date(s) of your file(s).

Should the need arise, the TMC can be updated online or through batch by authorized personnel. If, for example, you wanted to change the ex-

piration date of a tape, this could be accomplished by an update to the TMC. To request an update of the TMC, submit a TMS Update Form (available from the Computing Center, ISB 119) to a member of the Academic Computing staff. The staff member will assist you in completing the TMS Update Form and will make arrangements with the Computer Operations Tape Librarian to process the TMS update request. Run the TMSINFO Utility (shown above) three days after submission of the form to verify that the update has taken place.

For more information on the Tape Management System, type HELP OPER while in *GO mode on MUSIC/SP and follow the instructions.

Consulting On Pirated Software

It is the policy of the Computing Center that no consulting will be done with users on microcomputer software that we know or have reason to believe is pirated. "Pirated" means

Perpetual Julian Date Calendar (Non Leap Year*)

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	001	032	060	091	121	152	182	213	244	274	305	335
2	002	033	061	092	122	153	183	214	245	275	306	336
3	003	034	062	093	123	154	184	215	246	276	307	337
4	004	035	063	094	124	155	185	216	247	277	308	338
5	005	036	064	095	125	156	186	217	248	278	309	339
6	006	037	065	096	126	157	187	218	249	279	310	340
7	007	038	066	097	127	158	188	219	250	280	311	341
8	008	039	067	098	128	159	189	220	251	281	312	342
9	009	040	068	099	129	160	190	221	252	282	313	343
10	010	041	069	100	130	161	191	222	253	283	314	344
11	011	042	070	101	131	162	192	223	254	284	315	345
12	012	043	071	102	132	163	193	224	255	285	316	346
13	013	044	072	103	133	164	194	225	256	286	317	347
14	014	045	073	104	134	165	195	226	257	287	318	348
15	015	046	074	105	135	166	196	227	258	288	319	349
16	016	047	075	106	136	167	197	228	259	289	320	350
17	017	048	076	107	137	168	198	229	260	290	321	351
18	018	049	077	108	138	169	199	230	261	291	322	352
19	019	050	078	109	139	170	200	231	262	292	323	353
20	020	051	079	110	140	171	201	232	263	293	324	354
21	021	052	080	111	141	172	202	233	264	294	325	355
22	022	053	081	112	142	173	203	234	265	295	326	356
23	023	054	082	113	143	174	204	235	266	296	327	357
24	024	055	083	114	144	175	205	236	267	297	328	358
25	025	056	084	115	145	176	206	237	268	298	329	359
26	026	057	085	116	146	177	207	238	269	299	330	360
27	027	058	086	117	147	178	208	239	270	300	331	361
28	028	059	087	118	148	179	209	240	271	301	332	362
29	029		088	119	149	180	210	241	272	302	333	363
30	030		089	120	150	181	211	242	273	303	334	364
31	031		090		151	182	212	243		304		365

*For leap years (1988, 1992, 1996, etc.) add a day on February -060 -thus incrementing all the following dates by one.

that the software is being used in violation of the license agreement with the company that produced the software. So ... if you copy someone else's software and can't run it on your micro, don't come to us.

Turnaround on the Laser Printers

The Hewlett-Packard 2680A Laser Printers provide high quality computer-generated output with the flexibility of different character styles (fonts) and various character per inch settings. These printers serve users from the NAS/8083 and the VAXcluster. The laser printers print an average of over 5.5 million lines each week – more than ten times as much as any other Computing Center printers.

The HP-3000 system through which the laser printers are accessed serves all users on a first-come, first-served basis. All jobs routed to the Laser go through the steps described below:

When you route a print job to 'REMOTE 4' (or 'LASER') or 'REMOTE1' (or 'BA') using MUSIC/SP, the VAX, COMPLETE, or CMS, your job is placed on an output queue for that Remote. At this point a MUSIC user in OSJR would receive information similar to the following:

```
JOB 299 ID32PRT OUTPUT READY -
ROUTE n 200 LINES
```

When your job is next in line to print, it is sent down a communications line from the mainframe to the HP 3000 system. Each half of the NAS/8083 has a communications line to the HP, so jobs spool to this system simultaneously from the ACAD and ADMN portions of the NAS/8083.

After a print job has been sent to the HP-3000 system via this communications line, the mainframe no longer has any record of the job. At this point, a MUSIC user would receive "JOB NOT FOUND" when querying OSJR for the status of his job. Keep in mind that at this point the job has NOT printed – it may be from 45 minutes up to several hours before it prints, depending on the volume and

length of jobs already transferred to the HP-3000 system.

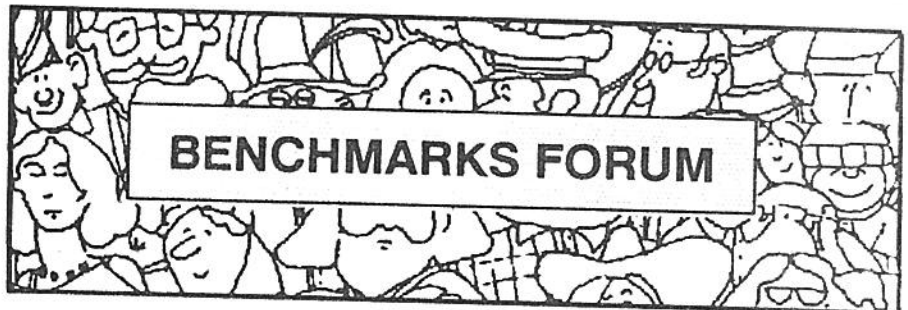
When your job is transferred to the HP-3000 it is placed on an output queue for one of the Laser printers. Jobs from both mainframes are placed on this queue for REMOTE4 in the order received – neither system has "priority". When your print job is first in line on the REMOTE1 or REMOTE4 system queue, it will be printed on the appropriate laser.

The apparent delay for users of the laser printers is caused by the number of jobs waiting to print on the HP system. Since this system receives output from multiple Host computers (the NAS/8083 and VAXcluster), it runs almost constantly during the day and night printing output as it is received. For a MUSIC user, a job may spool over to the HP system in five minutes or less. However, once transferred to the HP this job may be 125th in line, which means it will be at least an hour or more before it prints, depending on the size of the jobs preceding it.

To avoid waste of computer resources and needless increase of turnaround on the lasers, use the laser

printers only when you really need it – otherwise:

- Route output to REMOTE3 (ISB) if a laser print font is not necessarily needed, and for "test runs" of class projects. (Turnaround is usually QUICKER at these remotes, also).
- Thoroughly proof read and test jobs before requesting copies.
- Abide by the limit of 4 copies printed by any method. Use copy machines or the Copy Centers for further copies.
- Allow enough waiting time before you go to the ISB to retrieve your Laser output – 45 minutes at the least. Toward the end of the semester (last 4-5 weeks) it usually takes several hours.
- Check the "LASER PRINTER STATUS" board kept in the ISB Output window for a current estimate of REMOTE4 Laser turnaround time or type PSTATUS from MUSIC *GO mode to see a status display for all remote printers. ♦



BENCHMARKS FORUM is intended to serve as a vehicle for answering questions that may be of general interest to the user community. If you have a question, please send electronic mail to the *Benchmarks* editor (AS04@UNTVMI) or write it down and drop it by the Computing Center. We will try to answer it in the next issue.

Question: Is it possible to use Kermit to upload/download files between MUSIC and PC's? Where can

I get more information about using Kermit?

Answer: A version of the Kermit file transfer protocol is implemented on MUSIC. The Help Desk (ISB 110, 565-4050) can give consultation support on using both the MSKERMIT and Procomm terminal communication packages in combination with MUSIC Kermit (Procomm includes Kermit as a file transfer protocol option). For more information on the use of these terminal communication

packages for Kermit file transfers with MUSIC, please see the June/july '87 issue of *Benchmarks* (vol. 8, #5) and the October '87 issue (vol. 8, #7). Back issues are available from the Computing Center Offices (ISB 119).

In addition to Procomm and MSKermit, a third communications package is distributed and supported by Academic Computing Services. PCWS (Personal Computer Work Station) is a full-screen terminal emulation package which provides extremely transparent file transfer. PCWS uses the "line mode" connection to the NAS (CALL 8040), but provides terminal emulation at the PC level, resulting in a generally faster response time, and a better implementation of the 3270 full-screen environment than is available through the combination of VT100 terminal emulation and the 3270 protocol converters.

Procomm and PCWS can be acquired by bringing a formatted 5 1/4 inch floppy diskette to the Computing Center Offices (ISB 119) and exchanging it for one of the program diskettes.

Question: *I heard the NT now has a public-access electronic bulletin board on the VAXcluster. Do I need a VAX account to use it?*

Answer: No you don't. One of the best things about the NT-BBS is that it's available to anyone on or off campus who has access to the Sytek local area network, and it's absolutely free.

Two of the easiest ways to access the NT-BBS are either by using a terminal from one of the many computer labs on campus, or by calling one of the public-access dial-up lines (see inside the front page of this *Benchmarks* for those numbers) with a telephone modem.

Once you receive the Sytek prompt (#), simply give the command CALL DEC and press the return (or enter) key. You'll get a display like the one in following illustration.

```

VAX/VMS Cluster (2 VAX-11/785
CPUs)
-NTVAXA-
University of North Texas, Denton, TX

Username: BBS

Welcome to the University of North Texas
BBS

Please log in. Hit CTRL-Z if you want to
abort login procedure.

Enter your first name: Lucy
Enter your last name: Diamonds

You are currently not a member of this
BBS.

Do you wish to join? y

What do you want for your password?

```

When prompted for a user name, type BBS (followed by a <RETURN>). You will then be using the NT-BBS. Simply provide the preliminary information that the BBS asks for, including your REAL first and last names. You'll then be able to engage in ongoing dialogues on a variety of topics. These topics range from philosophy and literature, to housing and employment. You'll also be able to share a variety of public domain software with other users by downloading (getting things off the BBS) and uploading (sending things to the BBS). Users of the BBS also share their expertise with other users in answering questions relevant to various educational activities.

If you want any more information on the NT-BBS:

- call the University Computing Center at 565-2324
- Read each of the bulletins available upon logging on to the NT-BBS
- Read the article about the BBS elsewhere in this edition of *Benchmarks*.

Question: *I have a file written with Word Star, but when I try to edit it in*

WordPerfect, I just get a screenful of garbage. Why?

Answer: To understand why this happens, it's necessary to know the differences between text editing and word processing.

Text editing is the straight editing of the actual contents of a given piece of text. Usually, text editing doesn't involve much more than adding and deleting text from a file to be used by another program, like a language compiler, a database management system, etc. Although some word processing programs can save text to appear like it's been edited by a text editor, text editors and word processors are usually entirely different programs.

Word processors have the capacity to format the text in ways that are more visually pleasing than output from conventional text processors. Typically, word processors can justify text within specified borders or columns, use **boldface** or underlined text, or satisfy a host of other special formatting requirements.

To fulfill these formatting requirements, word processing programs place hidden instructions within all documents they create. These instructions specify what formatting requirements are desired for that document. Since no standard has been accepted by the industry for the format of these hidden instructions (or "format codes"), each word processing program uses its own set of codes. Because each program uses its own set of codes, it's likely that two programs with different methods of formatting would be directly incompatible. Consequently, when a document created in one word processor is used in another word processing program, the computer shows little more than unintelligible control codes on the screen.

Some programs, however, include special purpose software (or "utilities") to convert word-processing documents from one format to another. One example is **WordPerfect** which includes a conversion

utility to translate files back and forth between WordPerfect format and ten other popular formats.

The bad news is that your Word Star file can only be edited in Word Star. The good news is that you can use the conversion utility provided with Word Perfect to translate your Word Star document. The translated document can then be edited in WordPerfect.

For further information on converting word processing documents from one format to another:

- Read "Appendix: Convert Program" in the Word Perfect version 5.0 Documentation, page 439
- Read "Word Perfect: Installation and Appendices," page 36, "Installation", from the Word Perfect version 4.2 Documentation.
- Call the Computing Center at 565-2324

Question: How do I log on to BITNET?

Answer: Although this is a frequently asked question, one never actually "logs on" to BITNET. BITNET (Because It's Time NETwork) is a wide area network. Essentially, a wide area network is a collection of computing devices that are linked somehow over a wide distance to afford a measure of connectivity (as opposed to a LAN, or Local Area Network which connects computing devices over shorter distances). Specifically, BITNET allows users at sites many hundreds or

thousands of miles apart to share files, programs, electronic mail, or simply to converse with one another without the inconvenience of a large phone bill.

BITNET can be easily used from MUSIC, CMS and the VAXcluster through the electronic messaging and file transfer programs available on each system. For example, MAIL on the VAX and MEMO on MUSIC can both be used to send electronic mail to other BITNET sites.

BITNET is one of a large group of diverse wide area networks that are directly or indirectly accessible through the minicomputers and mainframe on the NT Sytek local area network. For more information on using BITNET:

- Read the University's Computing Center handout: *Making Connections: An Introduction to the Use of Wide Area Networks at the University of North Texas*
- Contact the NT Computing Center at 565-2324
- Check the following help topics on the VAX: BITNET, BITNews, FindNode, Networks, Path, Send and Receive. Also check the files and subdirectories under DUAL:[Public.Networks]
- Check the following help topics on MUSIC: SendFile and Memo
- Check the following help topics on CMS: Mail, Sendfile, and Tell. ♦

Wide Area Network Handout Available

Making Connections: An Introduction to the Use of Wide Area Networks at the University of North Texas is now available from the Computing Center Reception Area (ISB 119). This document provides an overview of Wide Area Networks (WANs) and discusses issues involved in accessing them. BITNET, THENET, ARPANET, CSNET, NSFNET, and SPAN are among the WANs discussed. Topics covered in the handout include:

- Using BITNET from the VAXcluster
- Sending and Receiving BITNET Mail on MUSIC/SP
- Using BITNET on CMS
- An Introduction to BITNET List Servers
- File Servers on BITNET
- Using RELAY
- DECnet/THENET Commands
- Sending InterNetwork MAIL from the VAX
- Ethics of Electronic Mail. ♦

SPSS^X 3.01 Available for Testing on OS/MVS

The latest version of SPSS^X, Version 3.01 has been installed on OS/MVS and is available for testing. If all goes well, it will replace the current version of SPSS^X (2.0) in the next several months. If you would like to access this latest version, simply replace SPSSX with SPSSX3 in your EXEC statement: // EXEC SPSSX3

If you encounter any problems while using this version, please contact Claudia Lynch in the Computing Center at 565-2324. The version 3.0 manuals are available in the University Store. For more information on the latest additions to SPSS^X, run the INFO FACILITIES procedure. UNT does not currently have a license for the TRENDS procedure on the NAS/8083. ♦

Benchmarks Reader/User feedback is encouraged. Send all letters, suggestions, etc to (AS04@UNTVMI) or to the Benchmarks Editor at:

**University of North Texas
Computing Center
NT Station, Box 13495
Denton, Texas 76203**



MICROCOMPUTERS

PRODUCT REVIEW

Nota Bene

By Phanit Laosirirat, Academic Computing Services Consultant (AC44@UNTMUSIC)

Many of us have been frustrated that we are not able to retrieve parts of our previous papers in order to include them in a new project. For example, say we want to make a reference to a legal citation that we used before in a previous paper. There are two options: (1) we may go to the library and retype it in our paper again or, (2) we have to search through the entire paper and copy it to our new paper. If it is just a matter of one or two citations, it would be no problem. Unfortunately, most of the time this is not the case.

Recently, I have had a chance to review some new software that blends together word processing capabilities with a powerful text-based program. This new software is called **Nota Bene** from Dragonfly Software.

Nota Bene has two main features: a word-processor and a "text-base" program. Because it helps organize text, it is called a "text-base" rather than a "database".

The text-base is what makes Nota Bene different from regular word-processing packages on the market. Both the word-processor and the text-base will be discussed in further detail later in this article.

Word-Processing Features

Nota Bene is able to do most things that other word processors are able to

do. There are also several features that Nota Bene can do better than other packages. Some of these are:

- The ability to work on up to nine different documents in separate windows.
- The ability to change case in editing command.
- Paragraph styles that make it easy to standardize formats of all similar items throughout a document. These can be modified later, if so desired.
- A multiple-file search command to search an entire disk.
- Style-manual formats that control page layout, heading format, note positioning, etc. in accordance with major style manuals.

Text-Base Features

Nota Bene's text-base is a powerful search and retrieval program that lets you quickly locate and organize material, such as dissertation notes, letters, bibliographic references, and any other text from previous papers.

Advanced Searching Ability

The search commands of regular word processors, or especially a multiple-file search in Nota Bene, may help you search for words or phrases within a document or all files from a disk. Sometimes we want more than just a simple search. We want to retrieve a few sentences or a couple of paragraphs that go with the key words we have searched for, such as names, a dinner recipe, or particular legal citations and then put them into

a new file. The text-base provides you with these additional capabilities:

- You can search larger amounts of material much more quickly than the searching offered by the word processor
- You can search hundreds of files (on up to 255 disks or 18 subdirectories) at a time
- You can organize your material by pulling together widely scattered entries
- You can retrieve just those portions that you're interested in, without having to bring up the entire file containing them
- You can easily merge all matching entries--even if these are found in a dozen different files--into the document you were working on before you began your search
- You can display a list of every word that appears in your documents, including the number of times each occurs.

Limitations

In order to use the text-base, your material must be "indexed". Although, this process is automatic, it does take a little time. You have to tell Nota Bene during the indexing period how much of the information you want to retrieve when the keyword is matched. Another way to put it is that we have to decide in the first place just how large each entry is going to be, and Nota Bene has 8 entry formats available to choose from. Contact me at the Computing Center (565-2324) for more information on Nota Bene. ♦



By Kevin Mullet, Academic
Computing Consultant
(KEV@UNIVAX)

The Dilemma

Writing with a word processor is both a blessing and a curse. If you did all your writing with a unadorned typewriter, you would never feel the need to use extravagant text formatting. Your most elaborate formatting would consist of centering your text by counting out spaces with the backspace key, or underlining it by adding underscores. Many of us, however, use word processors and have come to expect a more sophisticated level of formatting in the text we read and write.

Typically, a respectable word processing program will allow you to write in boldface or underlined type. Many will also allow you to have a far greater measure of control over your formatting. With this greater measure of control, however, comes increased program sophistication and difficulty. Clearly, this added difficulty calls for a method of using a variety of different formatting styles without giving up the program's ease of use.

The Solution

Style sheets are one solution to this challenge. With a style sheet, you can keep a list of all your different formatting requirements and use them in your document without having to

remember a lot of arcane program commands. In a **style sheet**, you can refer to each of your formatting requirements with a natural language name, rather than a cryptic control code or function key sequence.

The traditional method of specifying format requirements is one-at-a-time through function-key sequences in WordPerfect 5.0. You may also create a list of formatting styles called a **style sheet**. Style sheets enable you to easily change back and forth between any number of different styles by selecting a custom format from a menu.

Thinking About Your Style Sheet

Setting up your style sheet is initially more difficult than imbedding codes directly in your documents. Using a personalized style sheet, however, is much easier than embedding print and formatting codes each time you change formats. You may find, therefore, that using style sheets is well worth the effort it takes to create them.

Ideally, your style sheet should change dynamically as your writing, and hence the demands you make on your word processor, change. Your initial style sheet should include descriptions of all the different format styles you commonly use.

Do the first step in defining your style sheet without a computer. Take a moment to think about all the different types of documents you write

in Word Perfect. Then, make a list of all the different formatting styles you use. One might be the style you use for headings in memos: Bold with a specific tab setting, aligned on colons. Another style might be the settings used when citing a long passage from another work.

With style sheets, you can make complete changes from one format to another with ease and uniformity, without having to memorize long chains of cryptic commands.

Once you've decided on what styles you want to include in your style sheet, the first step is to make sure that WordPerfect knows where to store your style sheet information. (Remember: this discussion applies only to **Word Perfect 5.0**, not to **Word Perfect 4.2**.) To define where your style sheet is to be stored, give the **SETUP** command (<Shift> <F1>) and select **7-Location of Auxiliary Files**. From that menu, select **6-Style Library Filename**. Now, enter a valid file name that WordPerfect can use to store your style sheet, preceded with a valid path. If you're not sure what a path is, check your DOS manual. WordPerfect now knows where to store your style definitions. The next step is to add the various definitions to your style sheet.

Two Kinds of Styles

There are two types of styles in WordPerfect style sheets: **open** and **paired**.

Open styles are definitions of formats that you want to use from one point in the document until the end. An example of a good candidate for an open style would be the format required for thesis or dissertations. You could place all the margin and type requirements in one style definition, call it "Style for my thesis" and use it at the beginning of any document you include in your thesis. Likewise, you could store all the exceptional requirements for a bibliography or resume in a single open style call it up whenever it was needed.

Paired styles are typically used from one place within a document to

another. An example of this would be the style used when citing from another work, where the requirement is often to italicize the text and indent it an additional inch on each side. Another example of a good paired style definition would be tables. Typically, when tables are included in a document, they are centered on the page and in bold print. With a paired style definition, you could enter a table in the middle of a document, define it as a block, then apply the style to the table.

Creating Your Style Sheet

The actual process of adding style definitions to your style sheet is straightforward and simple. Here's the steps for adding a style to your style sheet:

A. Call up the style sheet screen by pressing <ALT> <F8>

B. Create a new style by choosing 3 Create from the styles menu. A new menu will appear on the screen: Styles: Edit. From here, you will define your style requirements. There are five things WordPerfect needs to know for each style. To specify each of these items, simply press the item's number and enter the information as requested.

1. Name - This is a short name by which WordPerfect can internally refer to the style. It's usually best to make this an abbreviation of the longer name.

2. Type - This is either paired or open, as described above.

3. Description - This is a one line description that is listed on the STYLE screen. Use this to describe the style distinctly enough so you'll know which style this is.

4. Codes - When you select this item, you will go to a reveal codes screen. From here, specify all the various codes and formatting requirements such as typefaces, margins, etc... that you will require of this particular style. If you press HELP (<F3>) while in this screen, you'll access a large

amount of information on the WordPerfect commands that affect formatting. If you are defining a paired style, then you'll see a comment box on the screen. Place all formatting codes to begin using a particular style before the comment. Place all formatting codes to end a given style after the comment.

When you're through specifying all the codes for a given style, give the exit command (<F7>).

5. Enter - This selection gives you control over what your <ENTER> (or <RETURN>) key does while using a paired style. For more information, see p. 256 in your WordPerfect 5.0 documentation.

C. Save your style sheet to the hard disk - Once you've defined a style, update your work on your hard disk by pressing 6 and typing the path and name of your style sheet. If you save your style sheet, you will be able to use it in another document. At this point, you can define any additional styles you want to include in your style sheet, or edit existing ones.

D. Exit back to your document screen - Now that you've defined your style sheet, you can press Exit, (<F7>), and return to your document screen.

Using Your Style Sheet

You now have a personalized style sheet that you can use to format your documents. Using a style sheet is a simple affair, but there are slight differences between using a paired style and an open one. You can use both styles before or after typing your text. It's simply a matter of personal preference.

Using Open Styles

An open style is one that you will want to use throughout an entire document, or a large portion thereof. Specifically, an open style is one that starts and never finishes (or at least not until the end of the document). To use an open style, place the cursor at the point in your document where

you would like to start using the open style. Call up your style sheet by giving the style command, <ALT> <F8>. Your screen will now show your style sheet (or at least the first screenful of it) with each style on a separate line. Move the highlighted bar down with your cursor keys to the open style that you want to use and press <RETURN>. You have now placed a hidden instruction in your document, and any text located after this location will use this style.

You may also make temporary changes in the style of certain passages of your text using paired styles.

Using Paired Styles

A paired style is one that will define how a specific portion of text in your document will look. The way to use this style differs slightly depending on whether or not you have already typed your text.

If you have already typed your text into your document, define the text you want to format in a paired style as a block. Blocks are a device used in word processors to make it easier to deal with a selection of text from a larger document. In WordPerfect, a block is defined by moving the cursor to one end of the desired passage, pressing block, or <F4>, then moving the cursor to the other end of the passage.

Once you've defined the selection as a block, press style, or <ALT> <F8>. Select the paired style you want from the menu by moving the highlight bar to it and pressing <RETURN>.

If you prefer to select the style you want then type the text, simply bring up your style sheet, select the paired style you want, and press <RETURN>. Anything you type from now on is formatted in this style until you use the cursor keys to move past the [Style Off:stylename] code inserted in your document.

So there you have it. WordPerfect 5.0 style sheets in a, admittedly, rather large nutshell. As you can tell, although style sheets will save you a great deal of time, defining them isn't a project to jump into with only five

SPSS PC + TRENDS Is Here

The Computing Center has obtained a site license for SPSS PC + TRENDS, and it is now available for installation on PCs belonging to NT full-time faculty and staff.

SPSS PC + TRENDS is useful for those who collect time series data and want to find systematic patterns in the series so that a mathematical model can be built to explain the past behavior of the series. Several examples of these type of data are: Daily inventory levels measured for several months; Weekly market shares of a product; and Monthly casualty reports after a new seat belt law went into effect.

Some of the features available in TRENDS are:

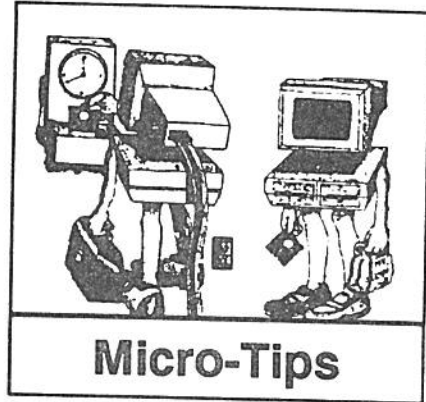
- A variety of series and autocorrelation plots.
- Smoothing techniques.

*"Using WordPerfect 5.0 With Style,"
Continued from page 16...*

minutes to spare. Ideally, you should have your entire style sheet defined in your mind before you even start to define it in WordPerfect. This isn't to say that you should define it once and never change it, but rather to suggest that the more you reflect on the contents of your style sheet the more useful it will be to you. Then again, writing, itself, is like that. ♦

- Decomposition techniques.
- Different regression techniques.
- ARIMA modeling and spectral analysis.

If you would like to acquire a copy of TRENDS and/or SPSS PC + and your PC has at least 10.2 MB of hard disk space available (or 3MB for the TRENDS enhancement), contact Phanit Laosirirat at 565-2324. ♦



Micro-Tips

This column is intended to serve as a forum for sharing useful tips on making more productive use of microcomputers. If you have a tip that you feel may be of use to campus users, submit it to the BENCHMARKS editor for possible inclusion in a future issue.

DOS MEMORY*

One of the most confusing issues in DOS-based PC configuration is understanding the difference between conventional, extended, expanded, and enhanced expanded memory. Perhaps the following will help explain which type best suits your computing needs.

Conventional memory, or base memory, is memory which DOS is capable of addressing and ranges from 0-640K bytes. All DOS program applications are managed within these first 640K bytes of memory, so no matter how much additional memory you add to your computer, you are limited to this 640K "DOS memory barrier."

Extended memory is memory in the range of 1M bytes to 16M bytes. It is used by the 80286 and 80386 microprocessors when they are operating in the protected mode under the new OS/2 operating system. When it runs under DOS, it is commonly used for managing RAM disks and print spoolers.

Expanded memory refers to the Lotus/Intel/Microsoft memory spec, also known as LIMS or EMS. This memory scheme sets aside part of the base memory (640K) as paged memory. Then, through a combination of hardware and software, blocks

OFFICE AUTOMATION NEWS

The latest issue of *Information Center* magazine, (September 1988), contained an article entitled "Have Software, Will Copy." It seems a company had received an evaluation copy of a disaster recovery program. Instead of just evaluating this software, they routed it through the departments with a note inviting people to copy the manual and disk because they were being sent back.

The problem occurred when it was mailed back and the routing slip was not removed. The offending company had a visit from the US Marshall's office, the software and manuals were seized, and under the Federal Copyright Act, are facing a maximum fine of \$50,000 for each violation, plus attorney's fees. Another punishment for violating the Federal Copyright Act is even more painful: the devices used to copy the software (the company's computers) can be destroyed.

Making copies of software that is licensed per machine is illegal. WordStar, WordPerfect, dBASE, Lotus, Symphony, DOS, Newsroom Pro, etc., are all licensed per machine, just to mention a few.

If you are going to be using a software package on your machine, you need to have your own legal copy of the software to have access to the manuals, and to have assistance from the software company. Many software companies are moving toward maintenance contracts for help in using their programs. This is a serious problem for software companies. The program mentioned above took 10,000 staff hours and \$500,000 to develop. There could be serious repercussions for the University if illegal copying proliferates.

"Office Automation News" was submitted by Sandy Franklin, Office Automation Specialist.

of memory are swapped, or "paged," into the base memory area. DOS still sees 640K of base memory, but because part of it is paged in and out, it is seeing a window on as much as 8M bytes of expanded memory!

Enhanced Expanded Memory, EEMS, or EMS v. 4.0, is basically the same as EMS except the size of the memory window can be enlarged to 32M bytes. The real impact of being able to expand from 8M to 32M bytes is whereas EMS can only page in data, EEMS can page in programs as well. With EEMS, you can theoretically put many applications into the paged area and then switch between them. This is not true multitasking, but it ain't bad!

MacTip

On the Macintosh, Press **OPTION** while clicking any window's close box to close all your open windows in one operation.

WordPerfect V.4.2 (IBM)

There's a feature called Case Conversion within WordPerfect. Step 1 consists in marking off the block of text you want changed with **<ALT> <F4>** [Block]. Next, press **<SHIFT> <F3>** [Case Conversion Menu]. Select number 1 or 2, depending on whether you wish to change the blocked-off text to upper-case or lower-case letters. Finally, press **<ALT> <F4>** [Block] to turn off the Block feature. (When converting a sentence from upper to lower case, be sure to include the punctuation from the end of the preceding sentence.)

** This month's "Micro-Tips" come to us from C. McLean (MICMOM@UBVMS) and was originally printed in the May 1988 issue of INTERFACE, the Computing Center newsletter of the State University of New York at Buffalo.*

Scholarly Dialogue

The following is an actual transcript of an electronic mail dialogue that took place between Scott Barber and Rocky Ward, both former employees of Academic Computing Services. Rocky is a Biologist and Scott is a Social Scientist.

Thanks for the note. I got the info I needed. C.A. is a neat analysis for scientific applications. Of course, considering your field of study, you'll probably never need it, but thanks anyway. Your link with the world of real data, Rocky

.....
Glad you got the info, but I think you'll really be more interested in a package I ran across the other day. You may have already heard of it, but I thought I'd let you know just in case.

The name of this package is Count'n'Smash, a data collection, management, and analysis program for the Real Sciences (that's why I thought of you). The researcher can feed the hard data in real form (the present version is limited to carbon-based lifeforms or their descendants) into the diskette drive of a PC-compatible PC. When you access the drive, the system prompts you for the unit of analysis. Depending upon your selection, it either counts the number of organisms immediately, or has to do some "data crunching" in order to break down the subject to the desired systemic level (e.g. organic whole, functional parts, basic tissues, cells, etc - future versions will support the new disk drive technology capable of sub-atomic breakdown.)

Reporting capabilities include printing the counts of various isolated elements on regular or wide (132 character!) formats. Fortunately, you can even output the data into Lotus format files, so you can do means, standard deviations, and corrections for skewed data (of course, this isn't really necessary, because we all know that "real data" is normal, anyway).

Relevant criticisms of the package, so far, revolve around the post analytical phase of implementation, as there is presently no support for removal of the data from the floppy drive. The vendor includes a bag of pipe cleaners, but they haven't gotten around the problem of that insidious odor! It seems that users of the software system continue to complain of headaches alleged to stem from the dilemma suggested by crunching and counting large amounts of data for the expressed purpose of preventing that data from being crunched (or otherwise terminally processed) in an alternative fashion.

Presently, the vendor sees no remedy for this problem, although they are considering stepping up their phone support.

Your link to the world of theoretical relevance, Scott

.....
Sounds like an excellent stat package. Designed by a socialist scientist no doubt. As you know I have the utmost respect for the software being developed by sociologists, psychologists, astrologers, political scientists, et cetera.

I am only confused as to whether when significance is reached with one of your procedures, it is referring to statistical significance or social significance. Oh well, what can you expect from someone in a field which actually requires data for an analysis (I do have fond memories of lisrel, and I hope they remain just that, memories).

Empirically yours, Rocky

VAX COMPUTER CLUSTER

The NT BBS Policies and Procedures

The Computing Center installed a Bulletin Board on the VAXcluster in Spring of 1988. It can be accessed from your account on the VAXcluster or by calling DEC on the Local Area Network (LAN) and typing BBS when asked to enter a Username. (Read "Benchmarks Forum" in this issue for more information). The following text is a statement of the policies and procedures adhered to on the BBS.

The NT BBS is designed to provide the following "key services" for the NT community:

- User support for academic and administrative use of NT and personal computing systems:

NT mainframe systems

Microcomputers (including IBM and compatibles, Apple Mac-Intosh, TI Professional, Commodore Amiga)

Local area (NT LAN, Ethernet, Novell) and wide area (Bitnet, THENET) networking

- Forum for public discussion of issues involving students, faculty, staff, and alumni in the NT community - such issues may involve:

(Pedagogy) - teaching strategies; instructional technologies; distribution of syllabi; instructor posted class notes

(Research) - discussion of published research, questions on research design and statistical analysis; ideas for further research;

(Computing) - ideas regarding potential applications of com-

puters in academic or other environments

(Campus Life) - announcements, university employment notices, discussion of events and issues involving campus life at the University of North Texas (e.g. meetings, speeches, conferences, concerts)

- Distribution of useful public domain and shareware software for several popular microcomputers (there is presently a download section for PD games, but this distribution is not one of the "goals" of the board and is simply provided for your enjoyment)

Policies

(General)

- Real first and last names must be used. Suspiciously fictitious names are subject to confirmation and removal of sign-on privilege.
- Use of initials for your first or last name is discouraged. If you use initials for signing on, you will be asked to establish a new account using your real first and last names, and the "initial" account will be disabled.

If your name is a duplicate of another BBS user (John Smith), use your first name and middle initial, separated by an " " (John_A Smith). If there is another John A. Smith on the board, you might include the first two letters of your middle name or use a different middle initial.

(Neither the first nor the last name may be longer than 14 characters.)

- Questions regarding the use of the BBS may be directed to other users or to SYSOP.
- In general, the BBS is to be considered "complete." However, if you have suggestions for improvements to the system, you are welcome to leave them in the BBS SUGGESTIONS area. Suggestions will be considered, as time permits, according to the following guidelines:

Suggestions that involve significant improvements for relatively small programming investments will be considered first.

Suggestions that involve larger amounts of programming time may be implemented in the long term, if they are considered important for efficient and effective use of the board and if they conform to the -next-criterion.

Suggestions must enhance the board's ability to provide the previously stated key services. If this criteria is not met, then the suggestion will probably not be implemented.

(Software distribution)

- Presently, all users may upload and download software with no restriction. This is subject to change if we determine that this activity dominates telephone access lines.
- Software should be uploaded in the standard compression formats for various machines. Particular

compression schemes to be used are:

IBM and compatible PCs - Phil Katz's ARC (PKARC & PKXARC)

MacIntosh - Raymond Lau's Stuff-It

Amiga - ARC

- While amusing items are ALWAYS welcome, we do not consider jokes based on insults and deprecation amusing. Also, while we do not consider ourselves prudes, we will erase files containing materials which could be potentially offensive. Please do not waste our time by making us erase stupid files that don't contribute to the purpose of the board.
- We do not have the time or the inclination to test every program that is uploaded for "viruses" or "trojan horse" programs or "pirated" software. Therefore, you download these files "at your own risk" and are responsible to test your files after downloading and before uploading if you are unsure. There are utilities such as CHK4BOMB and FLUSHOT in

the IBM UTILITY area to test for "trojan" and "virus" programs.

If we are notified that a particular program is dangerous or illegal, we will remove it immediately from the file transfer area, and determine who uploaded it.

Please do not knowingly upload a dangerous or illegal program to the file transfer area.

(Discussion areas)

- Discussions are organized into several different topical areas. All users are welcome to read and enter messages in any and all topic areas.
- Users are encouraged to post messages to the public.
From time to time, it may be appropriate to send private messages, but NT students, faculty, and staff are reminded that more powerful and efficient electronic mail facilities are available on the Vax and the IBM mainframe systems.
Remember that extensive amounts of private messages on the board

will adversely affect BBS mail response time unnecessarily.

- Users are encouraged to keep the content of messages relevant to the topic.

If the content of your message does not conform to any of the specified topic areas, use the PUBLIC INFO area for public messages, and the MAIL area for private ones.

If you have a suggestion for the inclusion of another topic area, submit the suggestion in the BBS SUGGESTIONS area, and it will be considered for the level of interest it would generate and its usefulness in contributing to the key service goals stated earlier.

The fundamental objective of the board is to provide for an electronic medium for the communication of ideas and issues relevant to the pursuit of educational goals at the University of North Texas. Messages posted and software uploaded deemed inappropriate to this overall objective are subject to deletion.

Please exercise courtesy and thoughtfulness in your use of this board, so that it will be considered a useful and

VMS TUTORIAL

Introduction to the VAX EDT Editor

By Lucia Young, VAX Operator
(LUCIA@UNIVAX)

EDT is an interactive text editor. It is the VAX/VMS default editor. It offers many features including the following:

- Three types of editing: keypad mode, line mode, and nokeypad mode. Both keypad mode and nokeypad modes are screen-oriented, which allows you to see several lines of text simultaneous-

ly and move the cursor throughout the text in any direction. Line mode enables you to edit text by using line numbers. You can use nokeypad mode commands to define keys.

- Online HELP.
- Journal facility. This enables you to recover your edit session in case of a system interruption.
- Startup command files. These enable you to personalize the characteristics of your editing sessions.

- Key definition facility. You can define keys to automate your keypad editing work.

Invoking EDT

To invoke the EDT editor, type the following at the DCL prompt (\$):

```
EDIT filename.ext
```

OR

```
EDIT/EDT filename.ext
```

Once you enter EDT, you can choose between three different modes. By

default, EDT puts you into line mode. You will know that you are in line mode when you see the asterisk prompt (*). If you want to enter keypad mode, type the letter "C" (abbreviation for CHANGE command) at the asterisk prompt and press RETURN. If you want to enter nokeypad mode, type SET NOKEYPAD command at the asterisk prompt, press RETURN, type the letter "C", and press RETURN. To switch back to line mode from keypad or nokeypad mode, press CTRL-Z.

Terminating EDT

If you want to save your edit session, switch back to line mode by pressing CTRL-Z, then type EXIT. If you do not want to save it, type QUIT at the line mode.

Journal Facility

If for any reason your edit session is aborted, a journal file is created. This file recorded every keystroke you entered for your edit session. This file will be in your directory as filename.JOU where filename is the file that you were editing. To recover the file, type the following at the DCL prompt (\$):

```
EDIT/RECOVER filename.ext
```

OR

```
EDIT/EDT/RECOVER filename.ext
```

Startup command file

Startup command file allows you to set up the mode and key definitions at the start of your EDT session. This file can contain only line mode commands. If you want EDT to put you into keypad mode whenever you edit, put the following line in the command file:

```
SET MODE CHANGE
```

This command file should be named EDTINI.EDT. To invoke EDT with the command file, type the following at the DCL prompt (\$):

```
EDIT/COMMAND = EDTINI.EDT  
filename.ext
```

OR

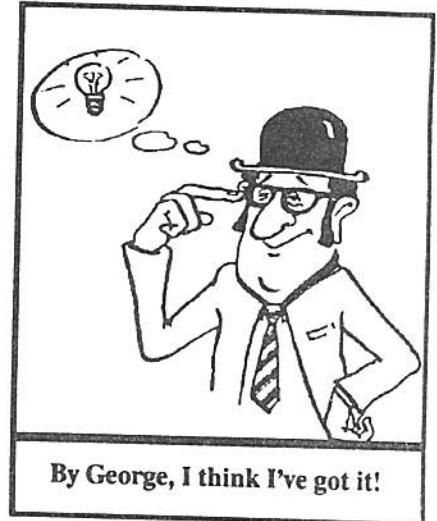
```
EDIT/EDT/COMMAND = EDTINI.EDT  
filename.ext
```

You can also assign a symbol in your LOGIN.COM file:

```
ED = "EDIT/EDT/COMMAND =  
EDTINI.EDT"
```

The next time you log in you can simply type:

```
ED filename.ext ♦
```



VAX CLUSTER USAGE STATISTICS

May Top Ten Programs: Frequency of Runs

Program	Description	Number of Runs	Percent of Total
1. LOGINOUT	User login	65257	17.0
2. SET	VMS Utility	49584	12.9
3. DELETE	VMS Utility	40511	10.5
4. TYPE	VMS Utility	27763	7.2
5. DIRECTORY	VMS Utility	23472	6.1
6. SHOW	VMS Utility	22328	5.8
7. EDT	Editor	17226	4.6
8. NETSERVER	DECnet Server	13726	3.6
9. User Programs	Compiled Programs	11141	2.9
10. SYSLOGIN	User Login	9969	2.6
Total		384062	

May Top Ten Programs: CPU Time Used

Program	Description	CPU Time	Percent of Total
1. User programs	Compiled Programs	4 21:31:20.37	30.0
2. MAXCLAS	ERDAS Utility	3 06:47:41.51	20.1
3. PASCAL	PASCAL compiler	1 01:07:39.93	6.4
4. LISP	LISP Interpreter	0 21:26:07.56	5.5
5. EDT	Editor	0 21:20:11.26	5.5
6. BACKUP	VMS Utility	0 13:23:47.02	3.4
7. ACC	VMS Accounting Utility	0 13:06:50.03	3.4
8. LOGINOUT	User login	0 07:47:00.63	2.0
9. DISKEEPER	Disk Compression Utility	0 07:11:38.38	1.8
10. TDP	PACS + Billing Utility	0 05:47:48.49	1.5
Total		16 07:12:29.21	

June Top Ten Programs: Frequency of Runs

Program	Description	Number of Runs	Percent of Total
1. LOGINOUT	User login	49079	14.4
2. SET	VMS Utility	45259	13.3
3. DELETE	VMS Utility	33685	9.9
4. DIRECTORY	VMS Utility	25979	7.6
5. TYPE	VMS Utility	24945	7.3
6.. SHOW	VMS Utility	17511	5.2
7. EDT	Editor	12887	3.8
8. NETSERVER	DECnet Server	10863	3.2
9. SEND	BITNET Message Utility	10431	3.1
10. SYSLOGIN	User Login	9497	2.8
Total		339661	

June Top Ten Programs: CPU Time Used

Program	Description	CPU Time	Percent of Total
1. User programs	Compiled Programs	7 23:04:52.41	47.1
2. MAXCLAS	ERDAS Utility	1 13:24:01.75	9.1
3. ACC	VMS Accounting Utility	1 02:48:26.94	6.6
4. RECTIFY	ERDAS Utility	0 14:07:06.55	3.5
5. EDT	Editor	0 14:01:47.68	3.5
6. BACKUP	VMS Utility	0 12:22:25.47	3.1
7. DISKEEPER	Disk Compression Utility	0 08:07:58.13	2.0
8. ADA	ADA Compiler	0 06:39:00.75	1.6
9. LOGINOUT	User login	0 06:30:14.13	1.6
10. BBS	Bulletin Board Utility	0 05:58:36.72	1.5
Total		16 21:36:50.51	

July Top Ten Programs: Frequency of Runs

Program	Description	Number of Runs	Percent of Total
1. LOGINOUT	User login	83537	17.1
2. SET	VMS Utility	60150	12.3
3. DIRECTORY	VMS Utility	49385	10.1
4. DELETE	VMS Utility	45352	9.3
5. TYPE	VMS Utility	35027	7.2
6. EDT	Editor	25597	5.2
7.. SHOW	VMS Utility	21437	4.4
8. User Programs	Compiled Programs	17420	3.6
9. NETSERVER	DECnet Server	13572	2.8
10. SYSLOGIN	User Login	12140	2.5
Total		498926	

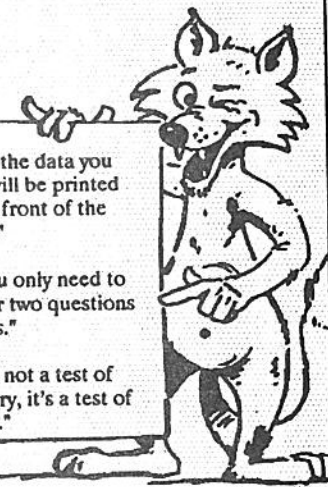
VMS 5.0 Arrives

The latest version of VMS has arrived and will probably be installed at the end of the Fall semester. According to Billy Barron, the VAX System Manager, the reason for the delay in installation is that some "third-party" software needs to be upgraded first. All DEC software will be upgraded with VMS 5.0 which includes most of the language compilers on the cluster.

Some features to look forward to in VMS 5.0 are:

- Some new TPU commands
- DCL support of IF-THEN-ELSE-ENDIF, CASE, and LOOP-ENDLOOP statements.
- New MAIL features such as the ability to change the default MAIL editor and a new MARK command allowing messages to be marked for future reference.
- General improvement of utilities such as BACKUP, DEBUG, and DATATRIEVE. ♦

GREAT EXAM LIES*

- 
1. "All the data you need will be printed on the front of the paper."
 2. "You only need to answer two questions to pass."
 3. "It's not a test of memory, it's a test of ability."

* From *Nutworks*, Electronic Humor Magazine (Issue 024, Volume VI, Number IV, July 1988)

July Top Ten Programs: CPU Time Used

Program	Description	CPU Time	Percent of Total
1. User programs	Compiled Programs	31 11:56:05.21	70.7
2. ACC	VMS Accounting Utility	1 15:22:32.28	3.7
3. MAXCLAS	ERDAS Utility	1 14:49:33.73	3.6
4. EDT	Editor	1 02:54:21.06	2.5
5. PASCAL	PASCAL Compiler	0 17:26:47.72	1.6
6. BACKUP	VMS Utility	0 15:00:18.93	1.4
7. DISKEEPER	Disk Compression Utility	0 11:48:53.68	1.1
8. LOGINOUT	User login	0 11:41:48.74	1.1
9. LINK	Linker	0 08:13:08.38	0.8
10. ADA	ADA Compiler	0 07:31:47.44	0.7
Total		44 12:29:22.82	

Files on the NT BBS

The following list highlights some files that have been uploaded to the NT BBS. Sign-on to the BBS and look in the File Transfer area for a complete list of files and instructions on how to get them.

- MOREROWS.ARC (AMIGA) - Utility to add rows and columns to your screen so you can display more info. at one time.
- FLICK.ARC (IBM.GRAPHICS) - Super fast screen writing. Excellent for graphics.
- PKARC36.TXT (IBM.TEXTFILE) - Problems with PKARC36. Should be read before using PKARC36.
- WAS.ARC (IBM.UTILITY) - Disk manager

ADMINISTRATIVE INFORMATION SYSTEMS

The Electronic Transcript Network

By Earl Jackson, Admissions Data Systems

The University of North Texas has joined the Electronic Transcript Network. The network originated through the cooperation of North Texas area colleges and universities and has been operational for approximately four years. Other institutions currently transmitting are: Dallas County Community College District, Tarrant County Junior College District, the University of Texas at Arlington, and Texas A&M University. Any student who has attended these institutions and requests that his transcript be forwarded to North Texas will benefit; the transcript data is transmitted electronically, eliminating the need for a hard copy

to be printed or handled by the sending institution delivered through the postal system or manually processed by the staff at North Texas.

The network has generated substantial interest throughout Texas and the nation. The University of Texas at Austin, Houston Community College District, and Texas Tech University are now developing the programming necessary to participate. As more institutions join, the costs of participation will decrease and more students will experience "hassle free" transcripting.

The network is managed by the Association of Higher Education and is administered by General Electric Information Systems Company. Sending student transcripts between institutions is now as easy as "the pressing of a button". ♦

TI PC's

The School of Library and Information Sciences would like to transfer five TI Professional Computers with keyboards and monochrome monitors. Each unit does not have a hard disk but does have two floppy disk drives. Willing to transfer to any University department, a Texas State Agency or a Texas political subdivision, e.g., a city or county. Contact Harold Smead (565-3561 or 565-3562).

COMPUTER SERVICES

Mainframe Performance Statistics

NAS/8083 Dual Processor Performance Statistics for June

CPU	SYSTEM	Scheduled Operating Hours	Planned Maintenance Hours	Planned Production Hours	Unplanned Maintenance Hours	Production Hours Achieved	System Uptime
ACAD	VM/SP3	720	0.00	720.00	0.00	720.00	100.0%
ACAD	MUSIC/SP	720	27.73	692.27	0.00	692.27	100.0%
ACAD	MVS/JES2	720	0.00	720.00	0.00	720.00	100.0%
ACAD	COMPLETA	720	0.00	720.00	2.72	717.28	99.6%
ADMN	MVS/JES2	720	0.00	720.00	0.20	719.80	99.9%
ADMN	COMPLETA	294	0.00	294.00	0.00	294.00	100.0%
ADMN	ADABASA	720	20.43	699.57	9.29	690.28	98.7%

System Uptime = (Production Hours Achieved) / (Planned Production Hours)

Production Hours Achieved =
(Planned Production) - (Unplanned Maintenance)

Scheduled Operating Hours =
(Planned Maintenance) +
(Planned Production)

MUSIC/SP Planned Maintenance Hours include 15.83 hours for system backup and 11.90 hours for VM/SP3 system backup.

ADABASA'S Planned Maintenance Hours include 20.43 hours for system backup.

The ACAD CPU achieved 100% uptime; the NAS/7360 DASD achieved 100% uptime; the NAS/7380 DASD achieved 100% uptime. The ADMN CPU achieved 100% uptime; the NAS/7360 DASD achieved 100% uptime; the NAS/7380 DASD achieved 100% uptime.

Lost productivity is calculated as the greatest amount of elapsed time that any one of the production systems was unavailable for

scheduled operation. Lost productivity hours were contributed to by the key causes appearing in the table below.

ACAD CPU:

Miscellaneous

1. COMPLETA system maintenance..	2.72 HOURS
TOTAL:	<u>2.72</u> HOURS
GRAND TOTAL FOR ACAD	2.72 HOURS

ADMN CPU:

Miscellaneous

1. ADABASA DASD file maintenance..	9.01 HOURS
2. COMPLETA system failures..	0.30
3. MVS/JES2 system tuning/improvements..	<u>0.28</u>
TOTAL:	<u>9.59</u> HOURS
GRAND TOTAL FOR ADMN:	9.59 HOURS

NAS/8083 Dual Processor Performance Statistics for July

CPU	SYSTEM	Scheduled Operating Hours	Planned Maintenance Hours	Planned Production Hours	Unplanned Maintenance Hours	Production Hours Achieved	System Uptime
ACAD	VM/SP3	744	0.00	744.00	0.15	743.85	99.9%
ACAD	MUSIC/SP	744	22.58	741.42	0.28	721.14	99.9%
ACAD	MVS/JES2	744	0.00	744.00	0.43	743.57	99.9%
ACAD	COMPLETA	744	0.00	744.00	2.72	741.28	99.6%
ADMN	MVS/JES2	744	0.00	744.00	0.18	743.82	99.9%
ADMN	COMPLETA	269	0.00	269.00	0.27	268.73	99.9%
ADMN	ADABASA	744	27.66	716.34	6.22	710.12	99.1%

MUSIC/SP Planned Maintenance Hours include 14.85 hours for system backup and 7.73 hours for VM/SP3 system backup. ADABASA'S Planned Maintenance Hours include 27.66 hours for system backup.

The ACAD CPU achieved 100% uptime; the NAS/7360 DASD achieved 100% uptime; the NAS/7380 DASD achieved 100% uptime.

The ADMN CPU achieved 100% uptime; the NAS/7360 DASD achieved 100% uptime; the NAS/7380 DASD achieved 100% uptime.

Lost productivity is calculated as the greatest amount of elapsed time that any one of the production

systems was unavailable for scheduled operation. Lost productivity hours were

contributed to by the key causes appearing in the table below.

ACAD CPU:

Miscellaneous

1. VM/SP system tuning/improvements..	0.55 HOURS
2. COMPLETA system maintenance.	2.72
	<u>3.27</u> HOURS
TOTAL:	3.27 HOURS
GRAND TOTAL FOR ACAD	

ADMN CPU:

Miscellaneous

1. ADABASA DASD file maintenance.	4.41 HOURS
2. ADABASA system failures.	1.21
3. COMPLETA system failure.	0.27
4. COMPLETA system tuning/improvements.	0.25
5. COMPLETA down to process single jobs.	0.35
6. MVS/JES2 system tuning/improvements.	0.60
	<u>7.09</u> HOURS
TOTAL:	7.09 HOURS
GRAND TOTAL FOR ADMN:	

DISK BACKUP SCHEDULES

OS/MVS Backup Schedule

OS/MVS disk packs (academic and administrative) are backed up daily, Tuesday through Saturday, from 4-6:30 a.m., and Sunday from Midnight to 3 a.m. A backup of all the operating systems on the NAS CPU and their contents is done once every two

weeks at some low activity period over a weekend.

MUSIC/SP Backup Hours

A message will be sent to all users signed on to MUSIC/SP approximately 10 minutes before backups are begun. It will be in the form
**MUSIC SHUT DOWN AT xxxx AM-

SCHEDULED BACKUP **. To find out the backup hours while signed on to MUSIC/SP, enter **HELP HOURS**. The following backup schedule is currently in effect:

Tuesday 3 a.m. (for about 3 hours)
Weekly backup

Wednesday - Saturday 4 a.m. (for about 2 hours) Daily backup

Saturday Midnight (for about 2 hours)
Daily backup

PHOENIX Backup Hours

PHOENIX is backed up weekly on Sunday night. The backup begins at midnight and lasts for approximately 30 minutes.

VAX Backup Schedule

Incremental backups of the VAXcluster are performed Monday through Thursday at 3 a.m. Users do

not have to log-off, but any files that are open at the time of the backup will NOT be backed up.

Full backups of both systems are done every Friday beginning at 8 a.m. These generally will take all day to complete. Again, users do not have to log-off, but any files that are open will not be backed up.

A "Stand Alone" backup of the system disk is done once a month. This pro-

cedure makes a copy of the system disk that can be used to restore its contents if the disk is completely destroyed. The system will be shut-down for this. Watch the system log-on message for specific times and dates.

NOTE: Requests for restoration of files should be made via MAIL to the username OPERATOR. Your file can only be restored if it existed before the last backup was done. ♦

ACADemic (NAS) Program Hit Parade

June Top Ten Programs : Frequency Of Runs

Program	Description	Number of Runs	Percent of Total
1. IEWL	Linkage Editor	5744	15.1
2. PGM = *.DD	Compiled Program	5693	15.0
3. SASLPA	SAS	4644	12.2
4. IKFCBL00	VS COBOL Compiler	4136	10.9
5. IEBGENER	IBM Utility	2855	7.5
6. SCRIPT	Waterloo/SCRIPT	2630	6.9
7. PTPCH	Dataset Lister	1841	4.8
8. SPSSX	SPSSX	1824	4.8
9. IEV90	Assembler H	1571	4.1
10. IEBPTPCH	IBM List Utility	1313	3.5

June Top Ten Programs: CPU Seconds Used

Program	Description	CPU Seconds	Percent of Total
1. SASLPA	SAS	136334	59.4
2. PGM = *.DD	Compiled Program	50237	21.9
3. FATS	Tape Verification Program	12150	5.3
4. SCRIPT	Waterloo/SCRIPT	7330	3.2
5. SPSSX	SPSSX	6030	2.6
6. IKFCBL00	VS COBOL Compiler	4884	2.1
7. PTPCH	Dataset Lister	2828	1.2
8. IEV90	Assembler H	1143	0.5
9. IEBGENER	IBM Utility	1041	0.5
9. IEWL	Linkage Editor	955	0.4

July Top Ten Programs : Frequency Of Runs

Program	Description	Number of Runs	Percent of Total
1. PGM = *.DD	Compiled Program	12775	17.5
2. IEWL	Linkage Editor	12529	17.2
3. IKFCBL00	VS COBOL Compiler	10218	14.0
4. IEBPTPCH	IBM List Utility	9078	12.5
5. PTPCH	Dataset Lister	4048	5.6
6. SASLPA	SAS	3776	5.2
7. IEV90	Assembler H	3089	4.2
8. IEBGENER	IBM Utility	2830	3.9
9. IEFBR14	IBM Null Utility	2446	3.4
10. CASMA001	Sort Utility	2293	3.1

July Top Ten Programs: CPU Seconds Used

Program	Description	CPU Seconds	Percent of Total
1. SASLPA	SAS	117423	50.3
2. PGM = *.DD	Compiled Program	40776	17.5
3. SPSSX	SPSS ^X	15134	6.5
4. IKFCBL00	VS COBOL Compiler	11970	5.1
5. FATS	Tape Verification Program	11937	5.1
6. PTPCH	Dataset Lister	7372	3.2
7. SCRIPT	Waterloo/SCRIPT	6450	2.8
8. ISTINM01	VTAM Utility	4302	1.8
9. IEV90	Assembler H	2568	1.1
10. IEWL	Linkage Editor	2192	0.9

The programs listed in this section were used the most frequently on the NAS CPU during the months of June and July, 1988.

Please Note that ACAD is the official designation of the part of the NAS/8083 CPU that is dedicated to faculty and student use. The portion of the computer reserved for University administrative purposes is termed ADMN. ♦



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Please complete this form and return it AS SOON AS POSSIBLE if you wish to attend any of the short courses listed below. You may also register over the phone by calling 565-2324.

NAME: _____ PHONE: _____
DEPT: _____ CLASSIFICATION: _____

I wish to attend:

● **Introduction to MUSIC/SP, Part I (ISB 110):**

___ Monday, September 26: 3-5 p.m. ___ Monday, October 24: 6-8 p.m.
___ Tuesday, September 27: 9-11 a.m. ___ Tuesday, October 25: 10 a.m.-Noon
___ Saturday, October 1: 9-11 a.m. ___ Wednesday, October 26: 9-11 a.m.

● **Introduction to MUSIC/SP, Part II (ISB 110):**

___ Monday, October 3: 2-4 p.m. ___ Monday, October 31: 3-5 p.m.

● **Introduction to IBM JCL (ISB 123):**

___ Tuesday, September 27: 3-5 p.m.

● **Introduction to SAS (ISB 110):**

___ Wednesday, September 28: 3-5 p.m. ___ Thursday, October 27: 1-3 p.m.

● **Introduction to SPSS-X (ISB 110):**

___ Thursday, September 29: 1-3 p.m. ___ Friday, October 28: 9-11 a.m.

● **File Handling With SAS, SPSS^X & BMDP (ISB 123):**

___ Tuesday, October 4: 2-4 p.m. ___ Tuesday, November 1: 9-11 a.m.

● **Introduction to VAX/VMS, Part I (ISB 110):**

___ Thursday, September 29: 9-11 a.m. ___ Wednesday, October 26: 3-5 p.m.

● **Introduction to VAX/VMS Part II (ISB 110):**

___ Tuesday, October 4: 9-11 a.m. ___ Tuesday, November 1: 3-5 p.m.

● **Introduction to BitNet (ISB 123):**

___ Thursday, October 6: 3-5 p.m. ___ Wednesday, November 2: 10 a.m.-Noon

● **Introduction to PROCOMM**

___ Tuesday, October 4 : 2-3 p.m. ___ Thursday, November 3: 2-3 p.m.

● **Introduction to PCWS :**

___ Tuesday, October 4 : 3-4 p.m. ___ Thursday, November 3: 3-4 p.m.

I would like to see more classes offered: ___ on weekends; ___ at night.

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